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AUTHOR Ficke, Eleanore R.
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ABSTRACT

A study was conducted at the University of Denver to compare the effectiveness of microfiche as opposed to textbooks, photocopying, or reserve room reading for a library science reading assignment. Assigned material was copied on microfiche and given to each student. The results were measured by analyzing data gathered using student diaries, questionnaires, and a time-sampling of the use of microfiche readers in the library. The results were positive. Students stated that they would be willing to pay for microfiche copies of assignments in other classes because of their experience with the equipment. Questionnaire forms, diary and survey sheets, and data summaries are appended. (Author/DS)

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A STUDY OF MICROFICHE AS AN ALTERNATIVE TO THE RESERVE ROOM FUNCTION

A Research Paper

Presented to

The Faculty of the Graduate School of Librarianship

University of Denver

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts in Librarianship

By

Eleanore R. Ficke

June, 1974

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E. R. F.

ABSTRACT

Textbooks assigned for courses are expensive and often only part of the contents of the book are relevant to the course. In addition, supplemental material is required to cover the entire scope of the course. Materials can be obtained by the students through checkout from the library or from the library reserve desk. Students express dissatisfaction with textbooks, handouts, or photocopying of course reading and library-reserve-room access.

This study compares these conventional forms of meeting students' information needs with the feasibility of a tailormade anthology of a professor's selections in one bibliographic unit on microfiche. While past research suggests that when the information on microform is important to the user, the acceptability and value of microforms is greater, the use of microforms in conjunction with a library service has not previously been studied. For this study, a professor's reading assignments which were put on reserve at the library were also copied, photographed, and produced on microfiche in sufficient quantity for each student to have his own copy. The acceptability of microforms and microform readers by students who needed the information to properly complete course work was measured by analyzing data gathered through student diaries, questionnaires and a random time sampling of the use of the microfiche readers available in the library.

Students believed that microform copies of course readings were a good tool to use to do the necessary reading in preparation for course work. They would recommend, in some cases, that other professors film their assigned readings on microfiche and again, in some cases, they would be willing to buy the microform copies of assigned readings for their own use and retention for as much as $2.85 per course. Furthermore, the students felt that they would be more likely to read needed information on microforms now that they had become familiar with the medium. Based on these findings, this researcher recommends that libraries put more professors' assigned readings on microfiche as a tool to get critical course information to students as a supplement, or in some cases, a replacement for the reserve room function.

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A STUDY OF MICROFICHE AS AN ALTERNATIVE TO THE RESERVE ROOM FUNCTION

In keeping up with advances in their fields, researchers, scientists and engineers in industry, government, and academia are finding microfiche important in providing their information needs now. Microfiche provide current information conveniently and economically. Among the thirteen micrographic events Spigai (1973) identified are Government Printing Office (GPO) publication on microfiche and large microform projects such as ERIC (Educational Resources Information Center) and Congressional Information Service. Thousands of reports are available which can be stored in much less space than hardcopy documents of the same number of pages. The advantages of space saving are obvious. There are no dissenting opinions.

> Microfiche as a medium for information storage is definitely superior to bound documents. This opinion is based primarily upon the extremely high density storage capability of microfiche. (Wooster, 1969)

Access to information is important for students, too. As they go to school to prepare for careers, they have both current and future information needs. Respondents in Wooster's User Study (1969) repeatedly indicate that young users are more accepting of microfiche than "the older age group of library users," particularly if they have been exposed to the use of microforms during their college years. This helps to prepare them for the "fact of life" that some of the information they will need in their work will be most accessible on microfiche.

One librarian wrote (Wooster, 1969)

> As an educational institution, we feel it is our duty to expose our faculty and cadets to information media in all formats. In our library orientation sessions and in our classes on research methods, professional members of the Library staff explain and demonstrate the use of microforms. During these periods, we attempt to tear down the psychological barriers which some people have when it comes to using new informational media. It has been our experience that cadets who have used microfiche during some of their independent research courses really enjoy using it. The same is true of the younger officers. The senior officers share the bias of their counterparts in science and industry for hard copy rather than microfiche or microfilm. I believe it is all a matter of conditioning.

Besides teaching students the processes they will use to secure the information they will need on the job, professors, colleges and universities and their libraries have assumed the responsibility of selecting and disseminating the information the student needs to satisfy the requirements of the courses he is taking. Information the student needs is available at the bookstore, the library stacks, the reserve reading room, in handouts, or through copying or borrowing methods the students devise for themselves.

More and more the materials that colleges and university libraries collect are available only in microforms. The ratio of microforms to books in college and university libraries has been steadily rising. In the Fall of 1968, the first year microform holdings of college and university libraries are recorded in the "Summary of College and University Library Statistics for Academic Years 1964-1973: Aggregate United States" (The Bowker Annual, 1974), library collections included 50,200,000 microfilm reels and other microform units and 305,000,000 volumes. By Fall 1973, microform collections had increased to 108,200,000 reels and other units while the volume count had reached 430,000,000.

A professor selecting the contents for a course syllabus, rarely finds all the information he wants his students to know about in one textbook. No textbook satisfies a professor completely. He, therefore, assigns more than one text for the course and/or extracts information from various sources such as journals, documents, and forms. Marc Strausberg, recognizing this situation, started M. S. S. Information Corp. to publish

> ...books tailored to a particular professor's needs for a particular course....Strausberg's answer to the problem was to compile a book of required readings based on a bibliography selected by the professor teaching the course. (Heyes, 1973)

The professor is limited in this format, however, to choosing 200 pages of articles, mostly from scholarly journals.

Sometimes, supplemental material for a course is given to the students in the form of handouts. This is costly in terms of personnel time for typing, copying, and collating. At the Graduate School of Librarianship at the University of Denver, the administrative policy has been adopted that handouts will no longer be mimeographed. Handouts are now done in "dirty purple" only. The number of pages each professor is allowed to photocopy has been limited. In one case, the professor's handouts are so voluminous--over 300 pages--that mimeographed copies are sold to students at the University Bookstore. The price the student pays for this softbound collection of articles relevant to the professor's course does not recover the cost to the school administration of producing the item. Concern about paper shortages and the rising cost of paper, make these methods of getting needed information to students questionable.

The objective of the library is to provide a multi-media collection to support the curriculum offered at the university. Professors and

students request and are provided with materials relevant to their courses. Acquisitions are limited only by selection policy, procedures, and budgets. Items purchased by the library are made available in the library stacks.

A special service for critical reading for courses is provided in the Reserve Reading Room. Faculty members provide lists of assigned readings which are gathered in one place for students to check out and use. This, too, is administratively expensive. Personnel are required to man the Reserve Room to find the items in the "closed stacks" and check them out to students. In some cases, extra copies of books are purchased to provide an adequate ratio of copies per student per course. In other instances, photocopies are made of pertinent pages of text or journals. Library administrators may well question whether this service is used enough to warrant the cost. (Cormack and Loeber, 1971)

There are limitations to this method of getting information to students other than cost. As Cormack and Loeber (1971) point out, copies on reserve have been removed from the open collection where they might otherwise be used. Faculty members at the University of Denver are limited by Penrose Library to fifteen items on their list of selected readings. Actually this is a sound policy. "...There is a correlation between the number of titles on a reserve list and the number of times that a title circulates." (Cormack and Loeber, 1971) Noncirculation rises sharply when the reserve list is longer than twenty titles. Then, too, the students are limited to using the items usually to only two hours at a time. This means frequent trips to the library. Even in those cases in which the book is available for a one-day loan, the student is required to go to the library two consecutive days. This is a consideration for part-time students or for students who for any reason attend classes on campus only on alternate days.

Textbooks, handouts, library stacks, reserve rooms, all these efforts to get information to students, have disadvantages for the student. Textbooks are expensive. This expense is multiplied when more than one textbook is required for a course. Money spent on textbooks is wasteful if only parts are used which is most often the case. On the other hand, it is expensive to make copies of supplemental materials at 10¢ a page. Whether students make their own photocopies or receive them as handouts, there is the problem of filing them or in some way storing them for future personal use. Even getting reading materials from the library shelves is a problem. As Strausberg says,

> The other area of frustration was access to articles in scholarly journals. It seems that there is a direct correlation between a professor naming an article as required reading and its disappearance from the library's copy. (Heyes, 1973)

Even when these materials have been gathered into the Reserve Room, the student can experience difficulty in getting them. There are the possibilities of time delay in waiting in line for service at peak class-changing times or the item needed may be already checked out to someone else.

Clearly there is a need to develop new ways to get needed information to students. In fact, methods of satisfying information needs are being examined in many areas of endeavor. Microfiche can be an answer. Early in May, 1974, a microfiche system designed at Pennsylvania State University to provide instant information for firefighting, won the competition for new techniques in fire control for SCORE (Student Competition on Relevant Engineering). The idea is to provide the fire chief with data "on the location of fire doors, sprinkler systems and fire escapes inside the burning building, and on the best positions for his equipment outside it." The information "stored in the form of microphotographs," is "displayed on a lap-size reader." (Newsweek, 1974)

Educators have been devising microform systems for student use, too. In Study of the Characteristics of Ultramicrofiche and their Applications to Colleges and Universities, Kottenstette (1970) concluded that ultramicrofiche "is economically attractive for the creation of 'core' library collections and can be utilized to create information systems of great value to the student."

Giles (1974) relates microform collections to bibliographies compiled for ten "high-enrollment" courses common to junior college curricula. In the Phase II Final Report of the project it is reported that students were largely favorable in their acceptance to either roll film or microfiche. Microform acceptance was not differentially affected by whether the microform image was positive or negative, the frame presentation vertical or horizontal, the type of subject matter essay or graphic, or whether the microform equipment and materials were available for home use or restricted to use in the library only.

The Unisa (University of South Africa) Library solved its information problems with microfiche. This library makes university education available mostly by correspondence. This means that it is necessary to secure the materials for courses in sufficient quantities and to send them to the students.

> Other efforts having failed, the Unisa Library decided to try microfiche as a solution because it has the important characteristic that an unlimited number of copies can be produced at any time and at a very low cost once the publication is available on film.

Student acceptance of microfiche as a means of providing literature is reported as "surprisingly positive." (Willemse, 1973)

Not all systems analysts are recommending that microforms should be considered as an alternative for getting information to users. Raffel and Shishko (1969) concluded that "A better alternative than the use of

microform systems for reserve is a Xerox system in which reproduced articles are distributed to students." They considered this alternative in relation to storage and seating space and cost. "If M. I. T. encouraged students to purchase their own portable readers the demand for seating in the libraries would presumably shift downward, but under present conditions such a meaningful change in user behavior seems unlikely." They did not study student attitudes to test this conjecture. Nor did they include the possibility of microforms for reserve reading among the alternatives for consideration in their user survey. Given the choice between free Xerox copies and buying their own readers, the alternative suggested by Raffel and Shisko, students would choose the free paper copies, anyway. Raffel and Shishko did not evaluate the benefits in a "quantitive measure of library effectiveness" as they did other alternatives.

Giles (1974), however, lists the administrative advantages of microforms. There are the cost and storage space savings, the reduction of retrieval time, the ability to maintain collection integrity in the library, and, at the same time, increasing the availability of learning resources.

Kottenstette (1971) argues that "They [ultrafiche] <u>are</u> limited...by the requirement that a 'machine-reading' application must have intrinsic value to the student and not be applied solely because of certain administrative virtues." Administrative policy decisions always make some degree of imposition on students. All the methods of getting information to students are applied by some form of administrative authority. The assignment of a textbook by a professor imposes a cost on the student as well as the responsibility for reading the text. It has already been pointed out in preceding paragraphs that library selection policies, reserve room check-out procedures, copying costs, and methods of providing handouts of supplemental course materials are all administrative

applications imposed on students. All of these methods, of course, have intrinsic values as do microform systems. As Kottenstette summarizes in Phase II Final Phase Report Student Use of Classroom Microform in Support of a Content Course (1971), a student uses microforms when s/he perceives the value of a complete information unit.

Studies in the use of microforms in education need not be hindered by lack of technology. Technological developments have raised the quality of microform software and readers while costs have been lowered. "Screen presentation of education materials can be of excellent quality..." (Kottenstette, 1971) and "educational applications of ultrafiche are not limited by the present state of reproduction technology." Hardware design is improving. Spigai (1973) reports that there are now "two high quality readers priced under $100. Kodak's Ektalite and Bell & Howell's briefcase model." It is the latter model that students at the University of Colorado, Denver use when taking home packets of microfiche for study. (Jacobson, 1973)

Nor do educators have to be concerned about learning capabilities with the use of microforms. Giles (1974) reports that "The question of learning effectiveness was also answered positively. Data confirmed that students who used learning resource materials in microform learned as well as students who utilized traditional hardcopy materials." Other studies support Giles' findings. The

> ...ability of readers to assimilate and utilize information contained in technical training materials is the same for each of the following methods of presentation: (a) material presented as black on white offset copy, (b) material presented via microfiche with positive image, and (c) material presented via microfiche with negative image. (Baldwin and Bailey, 1971)

For nine of the twelve tests there were no significant differences among the three groups. The three tests in which statistical analysis of

the data revealed that the mean score for subjects receiving material via offset copy was significantly greater than the mean score for subjects receiving the material via either positive image or negative image microfiche required reading graphs, figure identification, and symbol translation.

The Willemse (1973) study introduced "microfilm as a medium of everyday use in the study programme, instead of it being only a last resort for very infrequently used publications." This is what Kottenstette (1971) defines as routine use rather than exceptional use of library microform. He writes

> Exceptional use of library microform is normally accompanied by urgent information needs. These needs create strong motivation for the user, and to a large extent, any defects in the microform system can be overlooked until the information need is satisfied. Routine use, however, is not usually accompanied by urgent information needs and, therefore, the motivation sustaining routine use is quite different and, perhaps, more fragile. System defects cannot be so easily overlooked because they are encountered repeatedly....

This researcher feels there is a need for more microforms user research because, with rising administrative costs, paper shortages, and other factors already discussed, what is now considered routine use may become urgent use as new methods of disseminating information are determined to be the only ones administratively feasible. In fact, administrative decree may be the only way to effect change. To quote another of Wooster's respondents, "...the paper explosion, dictated that we must utilize the new medium." (Wooster, 1969) User studies can educate professors and students in the use of microforms for their present information needs and for the needs they'll confront in their working future.

It is a purpose of this study to compare various methods of getting information into the hands of students. It is a "Human Factors,

behavioral type study on using microfiche" as called for by one of the respondents to Harold Wooster's User Study (1969). The hypotheses tested are that students will accept microform because the information published on them is required and necessary for their course work and that the student will become a repeated microform user in the academic library when s/he has once used the microform reader and equipment because s/he had become familiar with the mechanical use of the microform reader and conditioned to think of microforms as a source of information.

This study will test the feasibility of organizing microforms in relation to the reserve function. The use of microforms in conjunction with a library service has not been studied. This investigator believes that microforms should not be separated by form as a storage unit in a far corner of the library.

Methods

The plan for this study included giving to students microfiche copies of the assigned readings for a course. These readings were those which had been assembled for the professor in the Reserve Room with approximately one copy for each 15 students.

Of the "microformats" (Lee, 1970) available for use, microfiche was the form chosen for this study for its "convenience of access to a single bibliographic unit" (Veaner, 1971) and ease in handling. The transparent sheet of film measured approximately 4" x 6". The reduction was 24:1.

The course chosen for this project was Building Media Collections, a two-credit-hour course in the Graduate School of Librarianship at the University of Denver. This course was particularly suited to this study because of the nature of the content and purposes of the course,

course procedures, and the characteristics of the professor teaching the course.

The purposes of Building Media Collections include making future librarians aware of all formats in which information is found. The development of multi-media libraries is discussed in this course. Microform developments related to acquisitions is a part of the course syllabus. Using microfiche to do readings relevant to this course would be serving the dual purpose of introducing students to this medium and satisfying their immediate information needs for the course.

The professor for Building Media Collections continues to review textbooks in the field but has yet to find one single text she believes to be adequate for the course. She has, therefore, gleaned the information important to the subject from many sources and authors. The content of the course is presented in at least 27 readings from texts, mimeographed handouts, and journal articles. This is considerably greater than the 15 articles allowed per professor per class at the Reserve Room. There are more printed pages, over 500, than it is economically sound for the Graduate School of Librarianship administration to photocopy to give to the students. Making mimeograph or ditto copies of all these pages for handouts is unrealistic in terms of personnel time for typing and preparation, the amount of paper required, and cost to the Graduate School of Librarianship.

The content of the articles used for the course materials is predominantly prose. None of the readings require the translation of symbols, identification of figures, or reading of graphs that Baldwin and Bailey (1971) found resulted in lower test scores with microfiche reading rather than offset copy reading. There was no danger that learning capabilities would be affected.

Students in the course are expected to share the ideas they have gotten from the readings in classroom discussions. Acquisitions problems to be solved according to the theories contained in the readings are also assigned for the course. The reading is central to the instruction of the course serving as the core information dealt with by the professor.

The professor uses microforms to meet her own information needs. She reads technical reports on microfiche to keep up-to-date in her field. She recognizes the value of the medium for the transmission of information. She is enthusiastic about change and new ways of doing things. It is important to this study that the attitude of the professor be positive. This researcher believes that a librarian's attitude greatly affects the use of the medium. One of the attributes of "libraries with successful microfiche installations" identified by Wooster (1969) was "enthusiastic librarians." The professor's familiarity with microforms due to her regular use of them, her concern about how to get the unwieldy information needed for her course to her students, and her recognition of microforms as a viable tool to solve her information problems added greatly to the suitability of the Building Media Collections course for this study.

The professor and this researcher are well aware of the standards of quality requisite for a microforms system. The students are or become cognizant of the standards, also, because Veaner's The Evaluation of Micropublications is one of the assigned readings for the course.

> I contend that every step in the process is critical, in the sense that if one step breaks down the whole system breaks down...The answer seems to be unremitting quality control, not just in photography as is now presumably being done, but at every step in the project, from original manuscript to the final viewer. (Wooster, 1969)

Information Handling Services of Englewood, Colorado agreed to film and produce the microfiche in support of this project. This microfilming company has the mechanism to film directly from books and journals. However, to keep the cost within limits, it was asked that the material come to them for filming on single, flat sheets properly formatted for the camera work. The study was to be designed so that any library or school could replicate the procedures to provide microfiche in lieu of Reserve Room facilities. Therefore, books were not to be dismantled or in any way damaged for future use in the library collection. To meet these qualifications, it was necessary to photocopy the 445 pages from the printed hardcopy of twenty authors' works. Other pages were already in mimeographed form because the professor had been using them as handouts and were usable for filming.

Copying necessitated gathering all the books and journals from the Reserve Room and taking them to the photocopy machine. There, copies were made of the textbook and journal articles. It was important that the contrast of black on white be consistent so that one camera setting would make equally legible characters throughout the frame. One lesson learned at the photocopying sessions is that the technology level is only as good as the technician supporting it. The time, therefore the cost, of personnel effort to photocopy course-related materials as required by handouts or the Reserve Room function was also noted.

A contrast of the amount of material in the various modes was very visual, too. First there were the stacks of books and journals reduced to the pile of photocopied sheets. These, in turn, would be compressed, 98 pages per fiche, into a very small packet containing an equivalent amount of information.

The photocopying was done on a Xerox 3600 for printed pages, while photographs were reproduced with a Xerox 3100. The model 3100 does a high quality job copying half-tones. The completed set of new pages were highly acceptable to the representative of Information Handling Services for microfilming. In fact, one employee closely related to the project said the copy was some of the best they have ever had. This step and others were carefully controlled in order to avoid any variation in the study due to microfiche quality.

In order to speed up filming, the sheets were formatted before being delivered to Information Handling Services. It was decided to arrange the articles assigned for the course onto the microfiche alphabetically by last name of author. The professor assigns the readings by author and refers to them in class discussions in that way. Therefore, the students in this class are familiar with the names. It would seem logical to them to be looking for "Downs," "Katz," or "Melcher."

Targets were added to promote ease in finding items on the microfiche card after it is in the microfiche reader. "'Targets' are signals photographed preceding or following an entire document or a part thereof..." (Veaner, 1971) To serve as targets, an author-title sheet preceded each article on the microfiche. This title page before each article was designed to set the beginning of a new item apart from the preceding one on the card in the reader. This title page is unique enough to be discernible to the naked eye without machine blowback so that the user can have something of a "feel" for the format even before putting the fiche into the reader.

While there is a small enough number of items with cohesiveness of subject matter close enough that an elaborate indexing system is not necessary for only this one course, it was felt an index would

serve as a finding tool. A one-page and, therefore, one-frame author-title index was made. This was in alphabetical order by author with an appendix in accordance with the format of the microfiche. The body of the index and microfiche contained the assigned articles for the course. The appendix contained course-related items that would ordinarily be handouts from the professor such as the course outline, objectives, definitions, and a selection tools bibliography. Copies of this index were given to the students on hardcopy for use alongside the reader when the microfiche were being read and also appeared in the first column, first row of each of the six microfiche cards. At all times, the microfiche user could check this index, in either mode s/he preferred, to see on which card, row and column the article s/he wanted to read appears. (See Appendix F, p. 3)

For economy reasons, it was decided to use the diazo process to make the microfiche. Microfilming for storage purposes most often photographs the microfilm image on silver halide film. Since longevity is not the purpose of the information assigned to a course, or called into a Reserve Room, it was not a basic consideration to this study. The diazo microfiche would last, it seemed certain, at least as long as the information on the microfiche is up-to-date enough to be used for the Building Media Collections course.

Because of photographs which appeared on several pages of the assigned readings, positive polarity was chosen for the microfiche. Seeing photographs as negatives can be a minor dissatisfaction with microform. Negative is the image polarity most often used, however. Studies have repeatedly shown that there is no difference in the legibility of positive or negative microfiche. (Giles, 1974; Kottenstette, 1971; Baldwin and Bailey, 1971) The choice, in this case, was

a moot consideration, however, because the instruction did not reach the cameraman and all the microfiche were run in negative.

Nevertheless, the microfiche product was a tidy packet of six 4" x 6" cards containing 509 frames with the assigned readings for the Building Media Collections course. A sufficient quantity was produced for each student in the spring quarter class to be given his own individual packet. This provides the student with the information needed for this course, and for his personal retention of valuable articles throughout his student year and as a practicing librarian in the future.

While the microfiche for this study was being manufactured, a questionnaire was designed to ascertain if students perceive any problems in getting information for their course needs, their background as microforms users or non-users, and their enthusiasm for this tool to use to get needed information. The questions dealt with their access to library materials in the library stacks, the Reserve Room, and at copying machines. It asked if they had used microforms, if they thought it would be a good tool to use to read course readings, and if they would consider buying a reader to use the tool. This questionnaire was administered to the students in the Building Media Collections class near the end of the fall quarter. Even beginning students in this pre-requisite course in the Graduate School of Librarianship curriculum had had experience during at least one quarter of the school year with the reserve facilities at Penrose Library at the University of Denver.

The remainder of the research design involved the students enrolled in Building Media Collections during the spring quarter. Although hardcopies of the assigned readings for the course were available in the Reserve Room at Penrose Library, the professor asked that the students

use the microfiche and cooperate with the project by sharing their ideas and comments about the medium with the investigator.

There were two questionnaires, one administered at the beginning of the quarter and one at the end. A checklist diary was kept by the students as they did the reading for the course throughout the quarter. A random time sampling of the use of the microfiche readers was carried out by the researcher to test the availability of readers with the demands placed on the number of readers by this study.

The purpose of the first questionnaire was to measure the students' familiarity and previous use of microforms and their experiences with the use of the more traditional methods of using textbooks, handouts, library stacks, and reserve rooms to fulfill their information needs for college courses. The first eight questions dealt with student use of microform software and hardware. The last half of the questionnaire evaluated their satisfaction with getting materials from library stacks, the Reserve Desk, or at copying machines. This questionnaire was answered before the students were introduced to the microfiche containing the materials needed for this course. (See Appendix C)

At the time the students were given their individual packets of microfiche for the course, they were also given a pad of checklists to be kept as a diary of their microfiche reading experiences. The forms were number coded so that all readings done by a particular user could be matched to study patterns in reading habits. There was a space to mark how many times the reader spent at each author's assigned reading, where the reading was done, if there were any reasons the reading had to be stopped, and comments about the reading experience. (See Appendix D)

Because recommendations of user studies often include the suggestion to provide more readers, the microfiche area of the Library was checked at random times throughout the quarter to determine if the readers were ever all in use. At times chosen from a random-time table, the researcher telephoned the microforms department of Penrose Library at the University of Denver. The staff there checked and reported how many of the six readers were in use at that moment. (See Appendix E, p. 1-2)

No special machines were provided for this study. It is a design feature of the project to operate within the normal limitations of a typical library situation. Therefore, the six microfiche readers, including one reader-printer, already selected by the library, were the ones students were to use during the quarter. The students were also told there was a microfiche reader in the Tec Lab affiliated with the School of Librarianship. They were instructed that they could use reading facilities wherever it was convenient for them to do so. As a part of this study, they were taken to the microforms area of Penrose Library during the regular class meeting time at which they were given their microfiche packets, for instruction in the use of microfiche by the librarian in charge of that department of the Library. This gave the students who were not familiar with microforms an introduction to their use and those who had used microfiche and readers before were made aware of individual differences in these particular machines.

During the final week of the quarter, after all the assigned reading had been discussed in class, another questionnaire was filled out. These questions were designed to evaluate the use, coverage and presentation of the microfiche system. The students' acceptance of the medium to satisfy their information needs for course work were evaluated and compared with their experiences with the use of other information systems.

Students' opinions about the actual microfiche copies and readers and their instruction in their use were gathered. The students were asked if they thought microfiche was a good idea and if they would be more likely to use it in the future after having become familiar with it. It was even desirable to find out if the students would be willing to buy readers of their own if more course-related information were made available to them in this mode.

A set of the microfiche produced for this project are contained in an envelope inside the back cover of this report. Copies of the forms of the questionnaires and the diary are contained in Appendix A. They will be referred to in more detail in later sections of this paper.

Results and Discussion

The Survey questionnaire was administered to the students of Building Media Collections during the final week of fall quarter. Since time was provided in class to fill out the questionnaire, the form was returned by all 85 class members present at that session. These students could answer all the questions theoretically, being completely unthreatened by the possibility of having to test their views about microforms with action in the foreseeable future. Having finished their assignments, they would not be doing their reading for the course on microfiche. Data from the responses to the Survey questionnaire are given in Appendix B.

The questionnaire was designed to ascertain students' use of the traditional ways of getting information they needed for courses and their experience and opinions about microforms. All the questions were structured except one which was to find out why the student reproduced copies of articles assigned for class readings.

The comments in response to this open-ended question were very revealing of student study habits and attitudes. Twenty-three students

mentioned in one way or another the cost factor to explain why they did not reproduce copies of articles assigned for class readings available at the Reserve Desk. This is supported by the answers to question no. 6 which asked the student to estimate how much s/he spent in making copies of assigned articles for the course. Of the 54 respondents to the question, 77 percent reported spending less than $3.00, which included those spending $ .00.

Some of the comments reflected the fact that 21 percent of the students who had used materials from the Library Reserve Desk had rarely or never had any difficulty in checking out reserve materials. See Fig. 1, p. 21. Others mentioned that a two-hour limit to read some articles is unrealistic. One student expressed concern for the waste of paper by photocopying library materials.

Three who did not copy any of the assigned readings mentioned the necessity of note-taking as a result of using microfiche. Of course, it is also necessary to take notes when using reserve room or library materials as writing in the margins of these materials is frowned upon. Those who did not reproduce library materials were willing to spend study time in the Library. About a dozen of those students who did reproduce the materials preferred not to study in the library or rely on the Reserve Room function. A couple wanted copies for reviewing purposes and several mentioned wanting to keep some important information for their permanent, personal files.

A remarkable 44 percent of the students said that if the cost of microforms were comparable to other forms of copying, they would buy the microfilm copies of assigned readings for their own use and retention. Even with the qualification made by the comment that the microfiche "would have to be cheaper than 10¢/page" microfiche is a good deal.

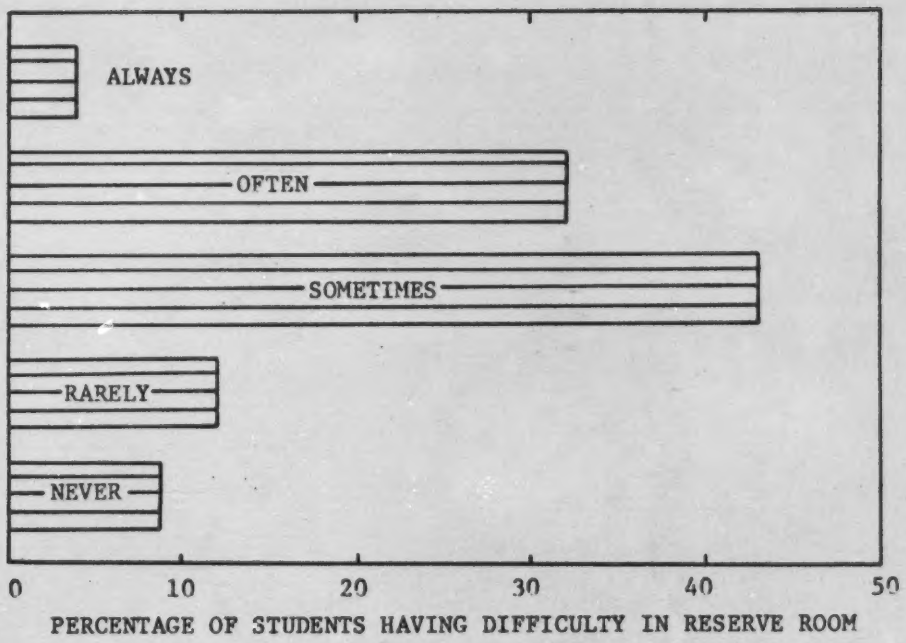

Fig. 1. Responses to Survey question number 2, "Have you experienced difficulty in checking out these reserve materials?"

It was calculated that the microfiche packet should sell for $2.85 for this course. Predominately students had spent less than $3.00 for photocopying for the quarter. The selling price of the microforms would, therefore, be in the same price bracket. With the microfiche the student would have all the pages--not just 29 or 30.

Comparing the number of students who made photocopies and the amount they spent on it with the numbers who indicated willingness to buy microfiche shows that students spending $5.00+ for photocopying would pay for information on microforms. It is further significant that some who aren't spending money for photocopying would be willing to spend money for the comprehensive coverage available on microfiche. See Fig. 2, p. 23.

An attempt was made to correlate willingness to buy the microfiche with previous experience with the use of microforms. There was not a significant relationship between these factors.

There was an overwhelmingly positive response of 85 percent of the students to the suggestion that microforms would be a good tool to use to do the necessary reading in preparation for course work. There were only 5, or 6 percent, negative responses with 8 percent "undecided." These seven undecided students would be possible subjects for what Wooster (1969) calls "reluctant converts."

Starting again in the spring quarter with a new, smaller class group, a questionnaire was administered in an early class session to determine student familiarity with microforms and their experiences with traditional library functions used to get information in the hands of students. This time the students knew that they were in an experimental group which would be using microfiche for assigned readings. The hardcopy journals and texts were still available in the Reserve Room but the students were

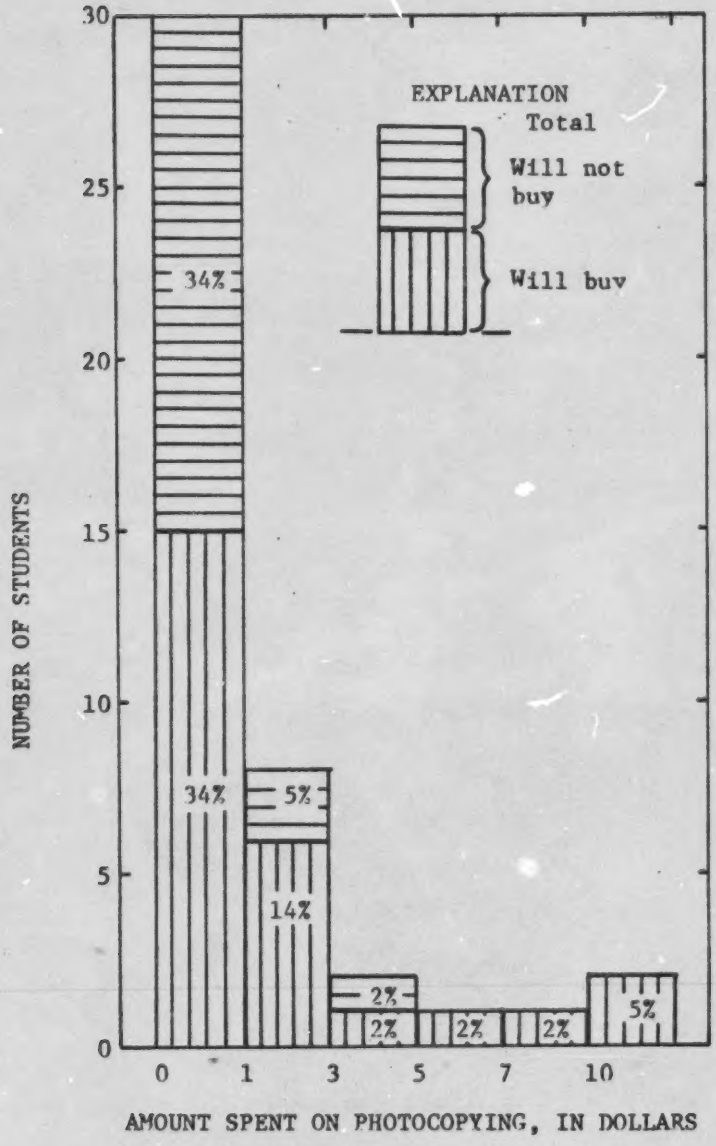

Fig. 2. Relationship between student spending on photocopies and their willingness to buy microfiche copies, based on responses to Survey questions numbers 6 and 9. "Undecided" responses not shown nor included in computing percentages.

asked to cooperate with this project. They were given the microfiche packets the same class period in which they filled out the Pre-questionnaire. The questionnaire is so called because it deals with information about the student before using the tool for class purposes. Responses to the Pre-questionnaire are summarized in Appendix C.

Although almost all the students in this spring quarter class indicated they had used the Reserve Desk and answered questions about photocopying course materials, they were relatively new students to the Graduate School of Librarianship. They may not have had as much experience with these methods of getting course-related information as the students had had by the end of fall quarter when that group answered the Survey questions. The question about why students reproduce copies of articles for class readings was not asked on this questionnaire as it had been on the first Survey. Responses to this question are lacking because of the researcher's hesitance to use unquantitative, open-ended questions.

There was a general, noticeable lack of comments on this questionnaire. This could be because there were no open-ended questions to invite or prime this sort of response. It could be because of a difference in the psychological makeup of the class members.

However, it can be noted that there is a significant difference in the copying patterns in this class from those of the class surveyed in the fall quarter, as shown by their reply to question no. 13 which asked if they copied material for class reading. This class was more evenly divided with 48 percent of the class answering "yes" and 44 percent of the class answering "no," and with two members of the class of 29 not answering at all. All of the class members in the fall quarter answered the question with only 22 percent answering "yes" and 78 percent

answering "no." For the comments from the fall Survey about why the students did or did not copy articles, see Appendix B. Because no provision was made in the first Survey for the fact that some students spent $ .0 for photocopying, it is difficult to compare the range of amounts spent on copying in this Pre-questionnaire.

The question, "If the cost of microform copies were comparable to other forms of reproduction, would you buy microfiche copies of assigned readings for your own use and retention?" was repeated in the Pre-questionnaire. This time only 14 percent of the 28 respondents to the question said, "yes." On the other hand, only 25 percent answered, "no." This left the majority, or 60 percent, of the students in the category with an open-minded evaluation of microforms with a "perhaps' response. A more favorable percentage of "yes" answers may have resulted if the respondents felt all reading by all professors would be put on microform.

Again, as in the Survey questionnaire, almost all students answering the Pre-questionnaire have had experience with the Reserve Room function of the library. Those students who answered that they did not use the Reserve Room may not because they do not want to go through the procedures required to do so, they may not be doing the reading for this course, or they may simply be satisfying their information needs in another library. A "no" response which occurs for the question no. 9 of the Pre-questionnaire about use of the library stacks would also indicate that some students do not or have not yet read assignments or study in other libraries nearer their homes or perhaps, where they work.

Of the 81 affirmative respondents to the Reserve Desk question (no. 2 in the fall Survey questionnaire [See Appendix B, p. 1]), only four percent indicated that they always had difficulty in checking out

reserve materials, eight percent reported that they never had any difficulty, and twelve percent rarely. Most ranged in the middle of the spectrum with 32 percent indicating that they often had difficulty and 43 percent sometimes. See Fig. 1, p. 21. One respondent checked both "sometimes" and "always." Since "sometimes" pertained to the student's later experience, this was the category used for these calculations.

Of the 26 respondents to the same question on the Pre-questionnaire who replied that they had difficulty using the Reserve Room, none said they always had trouble and again eight percent that they never had any difficulty while 23 percent rarely did. Forty-six percent had trouble sometimes and 19 percent often. See Fig. 3, p. 27. This is really a very close parallel to the response to this question in the earlier Survey. Compare Fig. 1, p. 21 with Fig. 3, p. 27. Because it is not known that a negative answer to the use of the Library Reserve Desk, question no. 1 on Survey questionnaire and question no. 11 on the Pre-questionnaire, Appendixes B, p. 1 and C, p. 2, is any reflection on this method of getting information, those responses are not included in the above calculations.

The last questionnaire was called the Post-questionnaire because it was filled out by the students after they had used their microfiche packets for the assigned readings for the quarter. This was done during the final class session of the quarter. There were only 19 members present at that meeting of the class although two students came to the professor's office later to fill out the questionnaire. It could be that non-respondence to this questionnaire was correlated with non-cooperative behavior in the course in general, as well as to the project. A slight balkiness shown in this study as in other studies (Wooster, 1969)

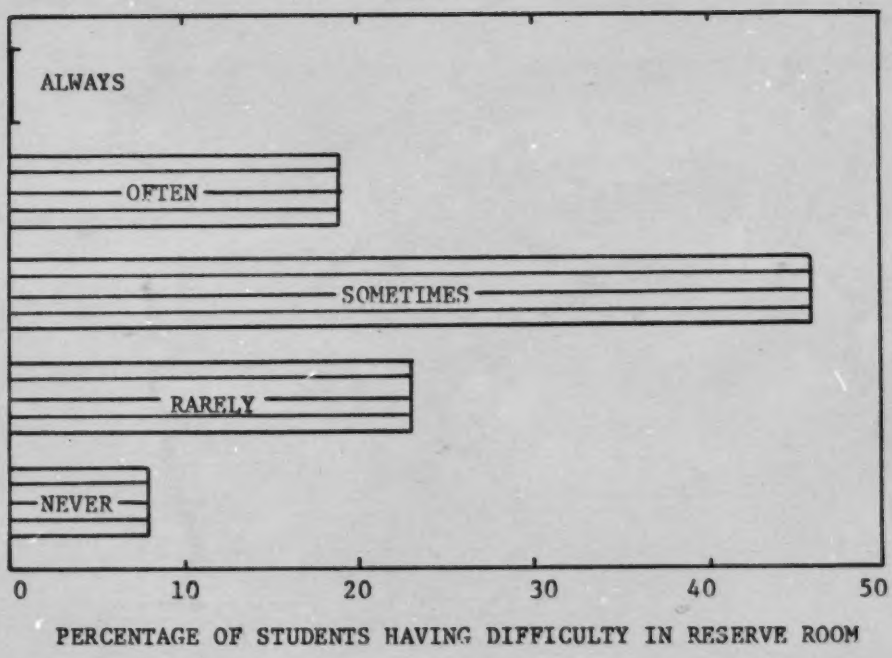

Fig. 3. Responses to Pre-Questionnaire question number 12, "Have you experienced difficulty in checking out reserve materials?"

may be due to the subjects' fear that endorsement of microforms may mean giving up the free hardcopy services to which they've become accustomed. See Fig. 4, p. 29.

The Post-questionnaire was designed to measure student evaluation of the quality of the microfiche product used for this project, acceptance of the microfiche, and comparative opinions about other information tools. Questions dealt with the microfiche presentation including format of microfiche copies and machines, coverage, and students experiences in retrieving information.

Question no. 8 asks if students are willing to pay actual costs of photocopies of all assigned readings for a course. The suggested cost of $10-15 per course was confirmed in another cost study (Raffel and Shisko, 1969). In the same question, the fact that a copy at the Reserve Desk is shared by 25 students is really optimistic. Many times there is only one copy of an item in the Reserve Room at Penrose Library regardless of how many students there are in a class.

A comparison of student reaction to the conventional forms of getting information from a library related to course work is illustrated in Fig. 5, p. 30. Few wanted to give up special library services and go directly to the library stacks for course materials. However, it is interesting to note that many would find this preferable "sometimes." This may be interpreted as an argument for putting on Reserve only those items truly critical for course work. It supports the idea that for some of the students some of the time, microfiche is a good way to get needed information.

Compare the opinions about traditional library methods with the hearty affirmation of microform copies of course readings as a good tool to use to do the necessary reading in preparation for course work.

THE PICK OF Punch
Copyright 1973, Toronto Sun Syndicate
PUNCH
"I mean, it's obvjous. Replace them with microfilm and the table falls over."

Fig. 4.

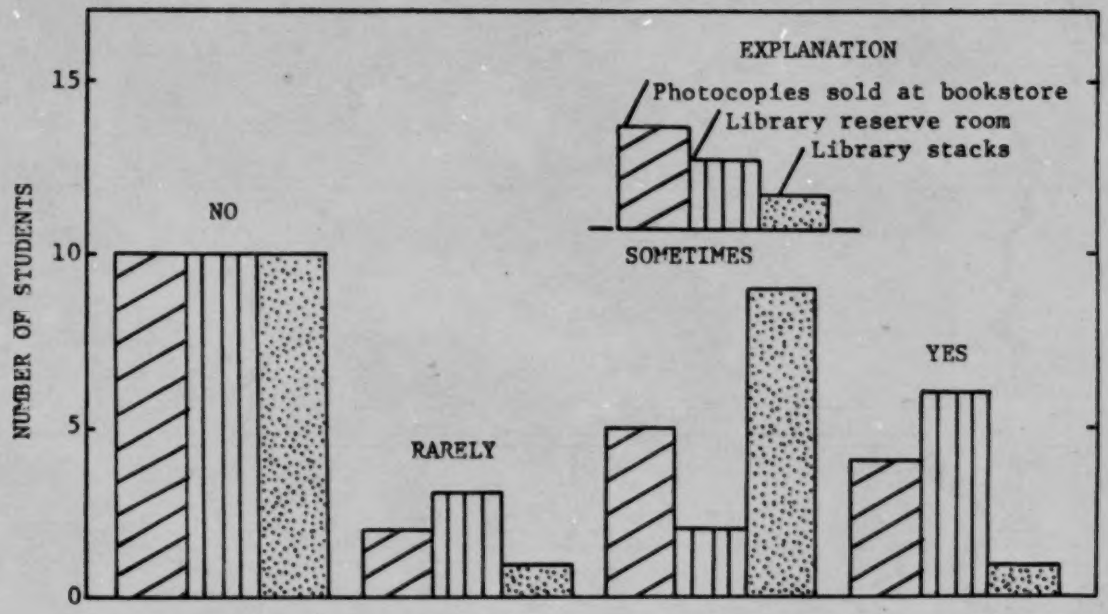

Fig. 5. Responses to "Would you prefer...?" question number 8 on the Post-questionnaire regarding different sources of required reading material for classes.

Fourteen respondents, or 67 percent, answered "yes" to question no. 1. (Appendix F, p. 1) Only one student, or five percent, answered "no," while five students, 24 percent, were undecided. Asked if they would recommend that other professors film their assigned readings on microfiche, most of the students, 75 percent, answered "in some cases" and again when asked if they would be willing to buy microform copies of assigned readings, 76 percent thought they would "in some cases." This is further endorsement of microfiche as a form to be used some of the time for getting course-related information to students.

After using the microfiche for reading information pertinent to Building Media Collections prepared for this study, students found them satisfactory in terms of legibility, accessibility of individual selections, and ease in learning to use the machines. Focusing the machines, eye strain, and lack of reading comfort were the most common complaints.

One of the questions called for the evaluation of the index (question no. 14, Appendix F, p. 2) and suggestions for a better arrangement. Lack of suggestions may illustrate that it's easier to criticize an existing plan than create new ideas. It would have been interesting to have asked an open-ended question to get suggestions about the general topic of the problem of getting course-related information to students besides getting the comparative evaluation of the existing methods. At any rate, of the two suggestions obtained with this question, one revealed unfamiliarity with the microfiche format design. The suggestion was to put the index directly on the fiche. It, in fact, was.

Fifty-seven percent of the students said that they will be more likely to read needed information on microforms now that they have

become familiar with this medium. See question no. 19, Appendix F, p. 3. This is important for a library student because relevant reports are available in the ERIC file and in GPO publications. Only 19 percent of the students felt their use of microforms had not been altered by this project. Twenty-four percent are still undecided.

Random time samples, during the times of the quarter when most of the required reading was assigned and discussed, were used to measure use of the machines in the library. Class meeting time was 4:30-6:30 p.m. on Mondays throughout the spring quarter. Of course, using the library's machines meant that use of the readers for this course would have to be interspersed with use of the same machines for other academic community purposes. Only once in the sampling for this study were all six machines in use. It was rather surprising, then, that even one student found all the microfiche readers in use "often." See item no. 18, Appendix F, p. 3. Of course, the student's sampling times are not known but, according to the diary entries, the student had spent ten sessions reading on the microfiche for the course.

To be able to correlate such data and comments on the diary with the Post-questionnaire, the researcher requested that the students put the code number which had been written on each sheet of their diaries in the space provided for it on the questionnaire. This worked as noted above for question no. 18 but it was not possible to correlate comments on the diary with responses to question no. 17 on the Post-questionnaire, "Did you experience difficulty in using the readers?" for only nine of the twenty-one respondents wrote the code numbers on the questionnaires. Of the ten who returned the diaries, six had put the diary code number on the questionnaires.

The 34 percent return of diaries was a poor response. Perhaps students did not return diaries for fear of admitting how many articles they had not read, although they were assured anonymity. There may have been a better response if a check of reader experience had been made at intervals throughout the quarter or if leaves of the diaries had been checked periodically.

The idea of collecting diaries for each reading after it had been assigned was rejected because it was not desirable to make the students feel that whether or not they were doing the assigned reading was being checked. The purpose of the checklist was to gather information about their experiences with the microfiche not to evaluate their study habits. It was also realized that different reading schedules would be set up by students and that it would be difficult to synchronize collection of the diary sheets with the times students would have finished each reading assignment.

Although the diary sheets were not always filled out in full, they are revealing of study habits. The diaries show, for example, that most students spent one session per reading and, in some cases, students read three articles in one session. One student, at least, found the microfiche reader in the Tec Lab. Use of this machine was not demonstrated. It was simply announced to the class that a reader is available in that department.

The fact that 24 of the 156 items read on microfiche were done in a library other than Penrose Library at the University of Denver is significant. See Appendix D, p. 1. Some students commute to the campus and live in other communities, especially those who enroll for evening classes of which the experimental group was one. Some are employed by other libraries where they might have access to microfiche readers. The readings done at home were read in hardcopy.

It is known that at least one student was called away from campus because of illness in the family. This happens at least once or twice a quarter, according to the professor. When this situation was reported by the student who asked if there was any studying that could be done while she was away, the professor suggested that the student take her microfiche packet along. An advantage of having critical reading for a course in one bibliographic unit is that all of the articles don't have to be found separately. In the case of the microfiche information unit, all that was necessary was to find a reader. Most libraries have readers. Not all could be expected to have all the titles assigned by a single professor at another school. This is not to mention the time to locate and retrieve all of the items even if they were available in the other library.

Perhaps the most worthwhile aspect of the diaries were the comments. As on the Post-questionnaire, most of the complaints in the comments in the diaries were about the machines. It is of the utmost importance for a library to select good machines and maintain them well. One student tried different machines until s/he found one s/he liked--a Bell & Howell Reporter. For a couple readings, a student reverted to the hardcopy still available in the Reserve Room. For this student, hardcopy helped in the transitional phase of getting used to reading microfiche.

A comment about illustrations points up a characteristic of microfiche. The text referred to a picture that was found on another row on the microfiche. It is disrupting to have illustrations on different pages of the relevant text in a book, too, but it is somewhat more difficult to find the illustration on a frame on microfiche and then resume reading the text on a frame in a different row with a microfiche

reader. The problem of photographs on negative microfilm was also a part of this complaint.

Conclusions and Recommendations

It was concluded that students believe microform copies of course readings are a good tool to use to do the necessary reading in preparation for course work. They would recommend, in some cases, that other professors film their assigned readings on microfiche and again, in some cases, they would be willing to buy the microform copies of assigned readings for their own use and retention for as much as $2.85 per course. Furthermore, the students felt that they would be more likely to read needed information on microforms now that they have become familiar with the medium.

The continued use of microfiche for Building Media Collections is warranted based on the results that more than half of the students in the study felt that microfiche should be used for course-related materials in some cases. This course lends itself well to this mode of getting required information to students because there is no textbook for the course and assigned readings are more numerous than the number of items allowed at the Reserve Room at Penrose Library per course. Because one of the concerns of the course is to introduce students to the multi-media approach to information, it is a natural for the application of microfiche in education.

The core information for other courses now handled by the Reserve Room should be put on microfiche. This medium should be offered to other professors and courses where it is deemed practical. Any course in which the content of the reading material does not contain figure identification, symbol translation, and graphs as outlined by Baldwin and Bailey (1969) could be among those using microfiche. Gradually the numbers of courses

served by microfiche could be increased to supplement or in some cases replace the Reserve Room function. This could increase the quality of library service economically while gaining the benefit of collection integrity. In order that students who want it could have their own microfiche copies for study at home, if they buy their own readers, or in other libraries nearer where they live or where they work and for retention for possible future use, the microfiche should be available for sale at the university bookstore. Students expressed a willingness to buy microfiche for critical course materials.

To provide this information service, a subsystem should be established in the library to prepare items for filming. The actual microfilming process could be done in-house or contracted by a microfilm company. The proper personnel and equipment for doing this type of work would allow for debugging the system to avoid errors and inefficiencies which were part of this do-it-yourself project. Channels would have to be established for getting publishers' permissions to copy the articles involved. This problem, described by Willemse (1973) was circumvented for this study because of its nature as a pilot research project.

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APPENDIX A

Copies of questionnaire forms and cover letters

		Page
(1)	Survey	A1
(2)	Pre-questionnaire	A3
(3)	Diary sheet	A6
(4)	Post-questionnaire	A7

GRADUATE SCHOOL OF LIBRARIANSHIP 97-344 Building Media Collections
UNIVERSITY OF DENVER Mary K. Nordick

Library students enrolled in the Building Media Collections course are being asked to help with a research project being done at the Graduate School of Librarianship of the University of Denver. The purpose of this study is to evaluate methods of getting assigned readings into the hands of students. As the first part of the study, this questionnaire is designed to determine if you as a student have found a need for a new way of answering your information needs or if, in fact, the present systems have proven satisfactory.

As students in this course, you have been assigned readings for preparation for class discussions. The information you have thus needed has been available at the bookstore, the library stacks, the reserve reading room, in handouts, or through copying or borrowing methods you may have devised for yourselves.

Please answer the following questions to indicate your experiences in getting the materials you have needed and your opinions about forms of materials based on these experiences. The facts and opinions you express will remain anonymous so you can feel free to be candid and objective. It should take no more than fifteen minutes to complete the questionnaire. When you are finished, please hand it in. Then you are free to go or to stay for further discussion of the study.

The results of this study will have an effect on the form in which future Building Media Collections students get the information in their assigned readings and handouts. We appreciate your time and consideration.

Thank you.

Eleanore R. Ficke

ACCESS to information

Materials for class readings for this course have been available from the Reserve Desk or by reproduction. This study examines the forms in which you have used the materials you have needed for Building Media Collections.

1. Have you used materials from the Library Reserve Desk for this course?

   Yes_____; no_____.

   If no, go on to question 3.

2. Have you experienced difficulty in checking out these reserve materials?

   Always_____; often_____; sometimes_____; rarely_____; never_____.

3. Did you reproduce copies of articles assigned for class readings?

   Yes_____; no_____.

4. Why?

5. How frequently did you make copies of such articles?

   Always_____; often_____; sometimes_____; rarely_____; never_____.

6. What do you estimate you spent in making copies of assigned articles for Building Media Collections?

   Less than $1.00_____; $1 - 3.00_____; $3 - 5.00_____; $5 - 7.00_____;

   $7 - 10.00_____; more than $10.00_____.

7. Have you ever used any type of microform for this course or any other information need?

   Yes_____; no_____.

8. In your opinion, would microform copies of course readings be a good additional tool to use to do the necessary reading in preparation for course work?

   Yes_____; no_____.

9. If the cost of microform copies were comparable to other forms of copying, would you buy microfilm copies of assigned readings for your own use and retention?

   Yes_____; no_____; undecided_____.

10. If microform copies were provided for your information needs for several of your courses each quarter, would you consider buying a reader costing about $50.00?

    Yes_____; no_____; undecided_____.

GRADUATE SCHOOL OF LIBRARIANSHIP 97-344 Building Media Collections
Mary K. Nordick

Library students enrolled in the Building Media Collections course are being asked to help with a research project being done at the Graduate School of Librarianship of the University of Denver. The purpose of this study is to investigate the feasibility of the use of microforms for class readings and handouts.

Microforms are photographic reproductions so much smaller than the object photographed that a microform reader is necessary to read the image. Microcopy for this study will be in the form of microfiche. By definition microfiche are flat sheets of photographic film bearing vertical rows of micro-images of the complete text of the publications. It will be necessary to use a micro-viewer to make use of the microfiche sheets.

Thus filmed on microfiche, the readings for this course will be collected into a single bibliographic unit like an anthology. This provides you with convenient access to a comprehensive source of information for class preparation. With microforms this can be accomplished at far less cost than possible through comparable hard copies.

As a part of this study, the microfiche copy of the Building Media Collections class readings will be available to you. You will be asked to evaluate microfiche in terms of your time and effort in using it for class purposes. Throughout the study your opinions expressed on checklists and questionnaires will remain anonymous so you can feel free to be open and objective.

This questionnaire is the first part of the study. It should take no more than fifteen minutes to complete. When you are finished with the questionnaire, please hand it in.

The results of this study will have an effect on the use of microforms for the Building Media Collections course and possibly for other courses in higher education. We appreciate your time and consideration. Thank you.

THE SUITABILITY OF MICROFORMS
FOR ACADEMIC USE

FAMILIARITY and previous use

Printed copies of books and articles, reproduced copies, and microform copies each have distinctive advantages and disadvantages to users. This study examines the feasibility and possibility of using microforms.

1. Have you ever used any type of microform (film, fiche, or card)?

   Yes_____; no_____.

   If no, go on to question 9 on the next page.

2. How frequently have you used them?

   Often_____; sometimes_____; rarely_____; never_____.

3. What type of microform have you used?

   Microfilm reels: yes_____; no_____.

   Microfilm cartridges: yes_____; no_____.

   Microfiche: yes_____; no_____.

   Microopaque: yes_____; no_____.

   Ultramicrofiche: yes_____; no_____.

4. Have you used reader-printers to make copies from microforms which you have wanted to use?

   Yes_____; no_____.

   If no go to question 6.

5. How frequently have you used them?

   Often_____; sometimes_____; rarely_____; never_____.

6. Have you used portable readers which you could carry with you for reading microforms?

   Yes_____; no_____.

   If no, go on to question 8.

7. How frequently have you used them?

   Often_____; sometimes_____; rarely_____; never_____.

8. Would you use a portable reader if you had access to one?

   Yes_____; no_____.

ACCESS to Library Materials

Materials can be obtained through checkout from the stacks, from the Reserve Desk, by purchase through the bookstore, or borrowing from a friend. This study examines the feasibility of making inexpensive microform copies of all required materials available to students.

9. Have you used materials from the stacks of the library?

Yes_____; no_____.

If no, go on to question 16.

10. Have you experienced difficulty in finding materials in the stacks?

Always_____; often_____; sometimes_____; rarely_____; never_____.

11. Have you used materials from the Library Reserve Desk?

Yes_____; no_____. If no, go on to question 13.

12. Have you experienced difficulty in checking out reserve materials?

Always_____; often_____; sometimes_____; rarely_____; never_____.

13. Do you reproduce copies of articles for class readings?

Yes_____; no_____.

If no, go on to question 16.

14. How frequently do you reproduce copies of such articles?

Often_____; sometimes_____; rarely_____; never_____.

15. What do you estimate you spend in making copies?

Less than $1.00_____; $1 - 3.00_____; $3 - 5.00_____;

$5 - 7.00_____; $7 - 10.00_____; more than $10.00_____.

16. If the cost of microform copies were <u>comparable</u> to other forms forms of reproduction, would you buy microfiche copies of assigned readings for your own use and retention?

Yes_____; perhaps_____; no_____.

1. Did you read_____

_____? Yes_____ No_____

2. If yes, did you read it in microfiche? Yes_____ No_____

3. Or did you read it in hard copy? Yes_____ No_____

4. How many sessions did you spend? 1 2 3 4 5 6
(circle one)

5. Where did you read? Penrose_____ Tec Lab_____
Home_____ Other Library_____

6. Did you begin this selection and quit for other reasons than time? Yes_____ No_____ If yes, please explain (comment).

GRADUATE SCHOOL OF LIBRARIANSHIP 97-344 Building Media Collections
UNIVERSITY OF DENVER Mary K. Nordick

As library students enrolled in the Building Media Collections course, you have been asked to help with a research project investigating the feasibility of the use of microforms for class readings and handouts.

You were given a packet of six microfiche which contain most of the class readings necessary for preparation for course work. Your microfiche packet serves as a tailor-made textbook for this course. We estimate that this represents the equivalent of $50 of material in hard copy. You may keep these microfiche for your personal collection. These readings would have otherwise been available to you in the Reserve Room for only a short loan.

This questionnaire is the final form you will be asked to complete for this pilot project. Some of the questions have been designed to supplement or support data gathered in your diaries. Therefore it is important that you put your code number in the space provided for it in the upper right-hand corner of the first page of the questionnaire. Your number is in no way attached to your name in this study. The number will be used to match those on your diary sheets. Throughout the study, your opinions expressed on checklists and questionnaires have remained anonymous. You may continue to feel free to be open and objective in your answers to this last questionnaire.

This form should take no more than fifteen minutes to complete. When you are finished with the questionnaire, please hand it in along with your completed diaries. Please stay for a few minutes for further discussion of the study. Your suggestions and comments are welcome.

Thank you very much for your cooperation throughout the quarter. Administrators, professors, librarians and students are searching for new ways to satisfy information needs in this time of rising administrative costs and paper shortages. The results of this study may have an effect on the use of microforms in higher education.

USE #_____

Information you have needed for previous courses has been available at the bookstore, the library stacks, the reserve reading room, in handouts, or through copying or borrowing methods you may have devised for yourselves. For this course you were given microfiche to provide the information you needed to participate in class discussions. This study examines your opinions about forms of materials based on these experiences.

1. In your opinion, were microform copies of course readings a good tool to use to do the necessary reading in preparation for course work?

   Yes_____; no_____; undecided_____.

2. Would you recommend that other professors film their assigned readings on microfiche?

   Heartily_____; yes_____; in some cases_____; no_____.

3. Would you be willing to buy microform copies of assigned readings for your own use and retention at $2.85 per course?

   Yes_____; in some cases_____; never_____.

4. Would you use a portable reader if one could be checked out of the library or Tec Lab, available in the dorms, or off campus?

   Yes_____; no_____; undecided_____.

5. If microform copies were provided for your information needs for several of your courses each quarter, would you consider buying a reader costing about $50.00?

   Yes_____; no_____; undecided_____.

6. If you read at microfiche readers other than at Penrose Library or the Tec Lab, where did you do your reading?_____

7. Did you use a reader/printer to convert your microfiche into hard copy?

   Yes_____; no_____.

   If yes, where?_____

8. The professor for this course thinks there is not currently a textbook which contains all the information necessary for this course. Instead of having microfiche copies would you rather have had photocopies of assigned readings available for purchase at the bookstore at a cost of $10-15?

   Yes_____; sometimes_____; rarely_____; no_____.

   OR would you prefer to use the copies on Reserve where there is one copy for each 25 students?

   Yes_____; sometimes_____; rarely_____; no_____.

   OR would you prefer to find copies of books and/or articles directly in the library stacks?

   Yes_____; sometimes_____; rarely_____; no_____.

COVERAGE

9. Did you have to go to other sources for preparation for the coursework?

   Yes_____; no_____.

   If yes, would you have preferred to have had these selections included on your microfiche?

   Yes_____; no_____; number of selections was of no consequence_____.

PRESENTATION including format of actual microfiche copies and machines.

Although students may never want to cuddle up with a microform reader, research shows they are motivated to use microforms when they perceive the information need. This study measures the acceptability of microforms and microform readers.

10. Were the filmed copies of the printed materials legible?

    Always_____; often_____; sometimes_____; rarely_____; never_____.

11. Were the selections reasonably easy to find on the microfiche after the film was inserted into the reader?

    Always_____; often_____; sometimes_____; rarely_____; never_____.

12. Did the hard copy index with the numbers of the cards, columns, and rows help you in finding the selections on the microfiche?

    Always_____; often_____; sometimes_____; rarely_____; never_____.

13. Did the alphabetical arrangement of the selections make them readily accessible?

    Always_____; often_____; sometimes_____; rarely_____; never_____.

14. Would some other arrangement have been better?

    Yes_____; no_____.

    If yes, what is your suggestion?_____

15. Did you find it difficult to learn to use the microform reader?

    A little_____; not at all_____; very_____; had used microforms before_____.

16. Was the class visit to the microforms area adequate instruction in the use of microform readers to do your assigned readings?

    Yes_____; no_____.

17. Did you experience difficulty in using the readers?

    Always_____; often_____; sometimes_____; rarely_____; never_____.

18. How often did you find <u>all</u> the microfiche readers in use?

    Always_____; often_____; sometimes_____; rarely_____; never_____.

19. Will you be more likely to read needed information on microforms now that you have become familiar with this medium?

    Yes_____; no_____; undecided_____.

Comments:

APPENDIX B

Responses to Survey

Eighty-five respondents

1. Have you used materials from the Library Reserve Desk for this course?

Yes 81 ; no 4 .

Comments: Yes. Very few.

No. I was able to obtain the required readings from the library I am employed at.

No. I have used the C. U. Library for the material -- not on reserve there.

2. Have you experienced difficulty in checking out these reserve materials?

Always 3 ; often 26 ; sometimes 36 ; rarely 10 ; never 7 .

Comments: Always. Early in quarter. Sometimes. Later in quarter.

Sometimes. Especially right after class.

(Four students did not answer this question because their answer to question no. 1 was no. Another respondent checked both always and sometimes, apparently because of changing study habits during the quarter.)

3. Did you reproduce copies of articles assigned for class readings?

Yes 19 ; no 66 .

Comments: Yes. Once.

4. Why?

Yes

- I copied two pages out of various books because I wanted to keep the information in my permanent files. Never copied a whole article.
- I needed material for quiz.
- The time element was important. If I reproduced I could read it at home, on the bus, etc.
- Made it possible to read it at more convenient times. Also, many materials seemed useful to have for future reference.
- Some were valuable. Some took too long to read at the library.
- So wouldn't need to depend on the reserve desk.
- There was not enough time in a 2 hr. reserve to read a certain item. Also I wanted a copy of some good readings.

Question no. 4 cont'd.

- Quicker than reading in library.

- One abstract was particularly helpful.

- Sometimes I needed more than 2 hours to take notes on an article and chances were I wouldn't be able to get it again before it was due.

- I live in Boulder and often do not have time to study here. Also, if I have found something that is available once, that is probably the only time it will be. Reproducing it eliminates the risk of not getting it again.

- Because I could not use them in the time allotted and wasn't sure when they would be available again.

- To reread before exams.

- Only 2 hr. reserves and you have to read something all at one sitting.

- Because I'd rather study in my room than at the library.

- Prefer to do some of the reading at home.

- For personal use and retention.

- Because early in the semester there was a rush on a certain article.

- Sometimes don't have time to use the reserve room.

No

- Did not feel I needed them -- I made notes.

- Didn't want to spend the money.

- Can't afford it -- I'd take notes on the material read.

- Too expensive.

- I would like to do it later on.

- Because it would be rather expensive.

- Cost -- also, if you can get a copy, you don't need one.

- Ten cents a page is too expensive.

- Don't feel I should pay for something which should be provided by course/library.

- Not my job.

- Too expensive, I'd be at the library anyway for other classes.

Question no. 4 cont'd.

- Didn't seem worthwhile. The short ones were easy to take notes on and the long ones would have cost too much to reporduce.
- I did not feel there was much of value in them and one reading with a few notes were adequate to my purposes. Besides I am a poverty case and the added expenses are getting to be a REAL drag.
- Waited for materials.
- Cost -- 10¢ a page adds up in a hurry.
- Costs too much.
- I found them available when I returned.
- I always managed to get them.
- I took notes.
- Lack of inclination.
- Felt they would not be worth the price.
- Didn't feel it was necessary.
- Too expensive.
- I read them there at the library.
- Costs money.
- I didn't have that much trouble getting them from reserve.
- Took notes -- it's cheaper.
- Would have been too expensive.
- Saw no need to.
- Too expensive for my wallet.
- Expense.
- Read the reserve copy since most of the readings did not relate to my own specialization.
- I don't believe in it -- it's a paper waste and a mind waste.
- No need to. I almost live in the library so I have access to the materials.
- Cost factor.
- Expense.
- Could obtain them eventually from reserve desk.

Question no. 4 cont'd.

- Because of cost mainly and also because material was available at the reserve desk whenever I needed to refer to readings.
- Too expensive.
- Copies had to be available to do so -- when I had the material I read it.
- Sufficient materials on reserve.
- Unnecessary.
- Waited for reserve material to be available.

5. How frequently did you make copies of such articles?

Always 1 ; often 3 ; sometimes 8 ; rarely 8 ; never 57 .

Comments: Never. Never copied a whole article.

Rarely. Once.

6. What do you estimate you spent in making copies of assigned articles for Building Media Collections?

Less than $1.00 39 ; $1 - 3.00 9 ; $3 - 5.00 2 ; $5 - 7.00 1 ;

$7 - 10.00 1 ; more than $10.00 2 .

7. Have you ever used any type of microform for this course or any other information need?

Yes 57 ; no 28 .

Comments: Yes. Not for a course, for my own research.

No. Probably should have.

8. In your opinion, would microform copies of course readings be a good additional tool to use to do the necessary reading in preparation for course work?

Yes 73 ; no 5 ; undecided 7 .

Comments: Yes

- If instruction on how to use was presented first.
- If you have the money.
- But not micro-opaques, they are so hard on my eyes.
- If the microform had an index for locating the desired material.
- If readers were available.
- If more readers are available.

9. If the cost of microform copies were comparable to other forms of copying, would you buy microfilm copies of assigned readings for your own use and retention?

Yes 38 ; no 28 ; undecided 20 .

Comments: Yes and no. Would depend on circumstances. Not having a reader or other equipment may prefer hardcopy in some cases for home use.

Yes. But wouldn't buy its reader.

No. I would if it were cheaper.

No. Would have to be cheaper than 10¢/page.

No. They're too hard to read.

Undecided. Possibly.

Undecided. They would have to be cheaper than Xerox copies since they are more inconvenient.

10. If microform copies were provided for your information needs for several of your courses each quarter, would you consider buying a reader costing about $50.00?

Yes 18 ; no 45 ; undecided 22 .

Comments: Yes. If all classes did.

Yes. But there is no $50 reader.

No. On my present budget, I could not afford this.

No. I cannot afford goodies for $50.00!

No. They already raised tuition between giving me data as a soon-to-be-DU-student & my arrival.

No. One reason is that I find microforms very difficult to use because of wearing glasses. On a number of occasions the viewers were not in operational shape, also.

Undecided. Probably not -- library students are poor.

Undecided. Would probably consider sharing one -- my resources are VERY limited.

Undecided. Possibly -- could we not use local library! A future proposition.

Undecided. It would depend on the way the world goes -- if I found it valuable for everyday life, I would buy it.

Undecided. A lot of money to shell out -- might be worth it in the long run.

Undecided. I might consider renting one.

APPENDIX C

Responses to Pre-questionnaire

Twenty-nine respondents

1. Have you ever used any type of microform (film, fiche, or card)?

   Yes 24 ; no 5 .

(The five answering no did not answer the following seven questions.)

2. How frequently have you used them?

   Often 1 ; sometimes 9 ; rarely 14 ; never 0 .

Comment: Rarely. Once.

3. What type of microform have you used?

   Microfilm reels 22 ; microfilm cartridges 1 ; microfiche 13 ;

   micro-opaque 4 ; ultramicrofiche 2 .

4. Have you used reader-printers to make copies from microforms which you have wanted to use?

   Yes 10 ; no 13 .

5. How frequently have you used them?

   Often 1 ; sometimes 1 ; rarely 8 ; never 0 .

(Those responding no to question 4 did not answer this question.)

Comments: Rarely. Once.

6. Have you used portable readers which you could carry with you for reading microforms?

   Yes 2 ; no 22 .

7. How frequently have you used them?

   Often 0 ; sometimes 1 ; rarely 1 ; never 0 .

(Only those answering yes to question six were asked to answer this question.)

8. Would you use a portable reader if you had access to one?

   Yes 21 ; no 2 . (One write-in maybe)

9. Have you used materials from the stacks of the library?

Yes 27 ; no 1 .

(There was no response on one form for questions nine through fifteen.)

10. Have you experienced difficulty in finding materials in the stacks?

Always 0 ; often 11 ; sometimes 14 ; rarely 2 ; never 0 .

(Instructions were erroneously given to go on to question no. 16 although respondents should have gone on to question no. 11. Yet, 27 responded to question no. 11, fortunately.)

11. Have you used materials from the Library Reserve Desk?

Yes 26 ; no 1 .

(The no response means skipping to question no. 13.)

12. Have you experienced difficulty in checking out reserve materials?

Always 0 ; often 5 ; sometimes 12 ; rarely 6 ; never 2 .

13. Do you reproduce copies of articles for class readings?

Yes 14 ; no 13 .

14. How frequently do you reproduce copies of such articles?

Often 4 ; sometimes 7 ; rarely 3 ; never 0 .

15. What do you estimate you spend in making copies?

Less than $1.00 1 ; $1 - 3.00 7 ; $ 3 - 5.00 2 ;

$5 - 7:00 2 ; $7 - 10.00 ; more than $10.00 1 .

(Sixteen students, more than the thirteen who indicated that they did not reproduce copies of articles for class readings, did not respond to this question.)

16. If the cost of microform copies were comparable to other forms of reproduction, would you buy microfiche copies of assigned readings for your own use and retention?

Yes 4 ; perhaps 17 ; no 7 .

Comment: If cheaper than, yes.

APPENDIX D

Responses from Diary

Ten respondents

1. Did you read American Library Association. Freedom to Read Statement 7 ; Intellectual Freedom Statement 7 ; Library Bill of Rights 7 ; Asheim 8 ; Bass 7 ; Boyer and Eaton 8 ; Clapp & Jordan 8 ; Downs 9 ; Erickson 9 ; Grove & Clement 12 ; Haines 8 ; Hicks 7 ; Jones 9 ; Katz 9 ; Melcher 7 ; National Council of Teachers of English. The Student's Right to Read 7 ; Sullivan 9 ; Veaner 8 ; Warren 8 ; Weil 8 ?
2. If yes, did you read it in microfiche? Yes 156 No 4
3. Or did you read it in hard copy? Yes 14 No 113
4. How many sessions did you spend? 1 (one) 133 2 (two) 15 3 (three) 3
5. Where did you read? Penrose 126 Tec Lab 1 Home 2 Other Library 24
6. Did you begin this selection and quit for other reasons than time? Yes 7 No 129 If yes, please explain (comment)

Tired. But noise of fan on machine highly irritating and contributes remarkably to fatigue.

Machine noise got to me.

The longer one reads - the worse the optical focusing gets! The focusing problem is the thing that bothers me the most.

The type was particularly difficult to read in this article. (Haines)

The last article was cut-off! That is - the last page or pages was omitted. (Clement)

Focusing very difficult - required re-focus from top of page to bottom of page.

Think I would prefer to read black print on white instead of white print on black.

Didn't have time to read entire article.

Ran out of time.

Noisy in the microforms area because a lot of people using a lot of different machines.

For all selections, slide of title and author should have date -- maybe publisher.

This wasn't on the reading list. Grove and Clement was supposed to start here: 2B5 but it did. ("Problems of Media and of Their Control" by Louis Brown)

This article started at B-10 but on reading list it's supposed to start at 2-B-1. I think the course outline might be messed up. But this card is definitely messed up. (Tillin)

This wasn't on the reading list. It started on 2-B-14 and it just ended right in the middle of the selection at C-3. This was very confusing!

The pictures were not good at all. In one part they referred to a picture and it was on a whole other line.

Eye strain.

Eyes hurt.

Read part in hard copy because it took longer to read portion on microfiche. I did not have time to read remainder on microfiche.

Eyes tired - reading went faster than previous times; getting used to fiche.

Eyes getting less tired. (Read Katz, Weil and Haines at the same session)

Machine focuses very poorly - words seem to jump around!

Bell & Howell Reporter machine - excellent - not tiring.

Fine.

Fine.

Lack of motivation.

Interruption.

Although I was apprehensive about using microforms when the project first started, I have found them quite useful. They are always accessible and, with a good viewer easy to use.

APPENDIX E

Data on use of microform readers

date	time	machines in use
April 8	7:44 p.m.	none
9	5:22 p.m.	1
10	10:35 a.m.	1
11	6:13 p.m.	none
12	10:50 a.m.	2
12	12:17 p.m.	none
13	1:37 p.m.	3
14	2:56 p.m.	5
15	8:05 p.m.	none
16	2:32 p.m.	1
17	9:43 p.m.	1
18	11:34 p.m.	none
18	11.52 p.m.	none
19	3:05 p.m.	3
20	2:38 p.m.	4
21	1:43 p.m.	3
22	10:48 a.m.	5
23	7:05 p.m.	none
24	1:38 p.m.	6
24	6:35 p.m.	none
25	10:20 a.m.	none
26	10:36 p.m.	none
27	11:02 a.m.	1
28	1:26 p.m.	none
29	1:50 p.m.	1
30	3:49 p.m.	none

April	30	6:22 p.m.	none	
May	1	4:20 p.m.	3	
	2	6:50 p.m.	none	
	3	10:17 a.m.	1	
	4	2:30 p.m.	4	One person waiting to use reader-printer
	5	7:44 p.m.	none	
	6	2:36 p.m.	none	
	6	8:21 p.m.	none	
	7	2:20 p.m.	2	
	8	1:10 p.m.	none	

APPENDIX F

Responses to Post-questionnaire

Twenty-one respondents

1. In your opinion, were microform copies of course readings a good tool to use to do the necessary reading in preparation for course work?

   Yes 14 ; no 1 ; undecided 5 .

(One form was unmarked at question no. 1.)

2. Would you recommend that other professors film their assigned readings on microfiche?

   Heartily 3 ; yes 1 ; in some cases 15 ; no 2 .

3. Would you be willing to buy microform copies of assigned readings for your own use and retention at $2.85 per course?

   Yes ____; in some cases ____: never ____. (One write-in probably not.)

4. Would you use a portable reader if one could be checked out of the library or Tec Lab, available in the dorms, or off campus?

   Yes 12 ; no 1 ; undecided 8 .

Comments: Undecided. How could I get it home on my bicycle?

Undecided. If it had good reproduction.

5. If microform copies were provided for your information needs for several of your courses each quarter, would you consider buying a reader costing about $50.00?

   Yes 5 ; no 6 ; undecided 15 .

6. If you read at microfiche readers other than at Penrose Library or the Tec Lab, where did you do your reading?

   Four libraries were named.

7. Did you use a reader/printer to convert your microfiche into hard copy?

   Yes ____; no 21 .

Comment: One time, Penrose.

8. The professor for this course thinks there is not currently a textbook which contains all the information necessary for this course. Instead of having microfiche copies would you rather have had photocopies

Question no. 8 cont'd.

of assigned readings available for purchase at the bookstore at a cost of $10-15?

Yes 4 ; sometimes 5 ; rarely 2 ; no 10 .

OR would you prefer to use the copies on Reserve where there is one copy for each 25 students?

Yes 6 ; sometimes 2 ; rarely 3 ; no 10 .

OR would you prefer to find copies of books and/or articles directly in the library stacks?

Yes 1 ; sometimes 9 ; rarely 1 ; no 10 .

9. Did you have to go to other sources for preparation for the coursework?

Yes 13 ; no 8 .

If yes, would you have preferred to have had these selections included on your microfiche?

Yes 3 ; no 10 ; number of selections was of no consequence 3 .

10. Were the filmed copies of the printed materials legible?

Always 9 ; often 11 ; sometimes 1 ; rarely ____ ; never ____.

Comments: Always. Not always easiest to read.

Often. But focus problem.

11. Were the selections reasonably easy to find on the microfiche after the film was inserted into the reader?

Always 13 ; often 7 ; sometimes ____ ; rarely ____ ; never ____.

12. Did the hard copy index with the numbers of the cards, columns, and rows help you in finding the selections on the microfiche?

Always 16 ; often 3 ; sometimes ____ ; rarely ____ ; never ____.

13. Did the alphabetical arrangement of the selections make them readily accessible?

Always 6 ; often 6 ; sometimes 5 ; rarely 1 ; never 3 .

14. Would some other arrangement have been better?

Yes 2 ; no 17 . One write-in probably not - one write-in don't know.

Comment: No. Not especially.

Question no. 14 cont'd.

If yes, what is your suggestion?

(1) If the index of no.s & columns had been placed directly on the fiche. (2) Do not start a selection in the middle of a row. This shouldn't require that much more fiche.

15. Did you find it difficult to learn to use the microform reader?

A little 3 ; not at all 15 ; very 1 ; had used microforms before 4 .

16. Was the class visit to the microforms area adequate instruction in the use of microform readers to do your assigned readings?

Yes 18 ; no 3 .

Comment: No. Could see none of the instruction - too many people, too little space.

17. Did you experience difficulty in using the readers?

Always 1 ; often 3 ; sometimes 8 ; rarely 6 ; never 3 .

Comment: Sometimes. At Penrose - readers not clear.

18. How often did you find all the microfiche readers in use?

Always ____ ; often 1 ; sometimes ____ ; rarely 6 ; never 13 .

Comment: Did not use Penrose.

19. Will you be more likely to read needed information on microforms now that you have become familiar with this medium?

Yes 12 ; no 4 ; undecided 5 .

Comments:

Enjoyed the accessibility of the material greatly. Was a great advantage. Thanks--

The bloody machines won't stay in focus (or maybe it's my eyes). At any rate, my eyes can't take too much microfilm. Also - I heartily suggest the library install horizontal marker lines on the screens so you can take your eyes off the screen to take notes w/o having to search for your place again.

I enjoyed reading the material for this course on microfiche. It was a good introduction & experience.

Fixing the focus was the only difficulty I had. I noticed my eyes seemed to get used to microfiche after an initial period of strain. Good luck with the copyright problem. I can't see a way out of it, myself.

Comments cont'd.

Would like to have been able to read at home - rather than library where research time was needed.

Poor for studying. Continued reading is physically uncomfortable because of design of readers & counters.

Improvement of machine technology (noise, angle of viewing, etc.) is needed for comfortable viewing.

APPENDIX G

Index to microfiche system

	Card	Row	Column
American Library Association. Freedom to Read Statement.	1	A	1
American Library Association. Intellectual Freedom Statement.	1	A	6
American Library Association. Library Bill of Rights.	1	A	10
Asheim, Lester. Not Censorship But Selection.	1	A	13
Axford, William H. Economics of a Domestic Approval Plan.	1	B	7
Bass, Doris. Can This Marriage Be Saved.	1	C	3
Boyer and Eaton. Book Selection Policies in American Libraries.	1	C	8
Clapp and Jordan. Quantitative Criteria for Adequacy of Academic Library Collections.	1	C	14
Downs, Robert. Problems of Bibliographical Control.	1	E	10
Erickson, Carleton. Administering Instructional Media Programs.	1	F	8
Grove and Clement. Bibliographic Control of Non-Print Media.	2	B	5
Haines, Helen. Art of Annotation.	2	C	4
Hicks and Tillin. Developing Multi-Media Libraries.	2	D	1
Jones, Emily. Film Evaluation.	2	F	1
Katz, William. Magazine Selection: How to Build a Community-Oriented Collection.	2	G	1
McCullough, Kathleen. Approval Plans: Vendor Responsibility and Library Research.	3	C	11
McGrath, William. The Significance of Books Used According to a Classified Profile of Academic Departments.	3	D	11
Melcher, Daniel. Melcher on Acquisition.	3	E	5
National Council of Teachers of English. The Student's Right to Read.	4	A	13
Sullivan, Robert C. Microform Developments Related to Acquisitions.	4	B	8
Veaner, Allen. The Evaluation of Micropublications.	4	C	8
Warren, Roland. Studying Your Community.	5	A	2
Weil, Ben H. Standards for Writing Abstracts.	5	F	7
Appendix	5	G	1
Course Outline	5	G	2
Course Objectives	5	G	4
Definitions	5	G	5
Selection Tools Bibliography	5	G	8

Note: This is a pilot project for the Graduate School of Librarianship, University of Denver.